

21st April
2023

ItPS Friday Seminars

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Greener Cleavage of Protected Peptide Fragments from Sieber Amide Resin

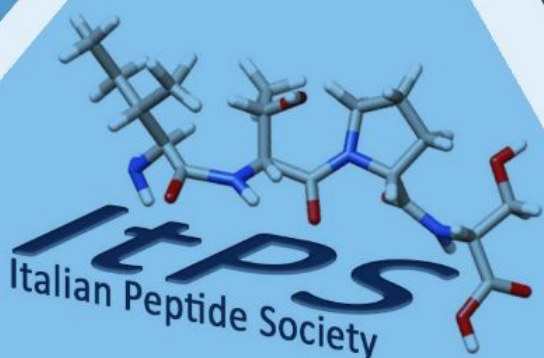
Following the successful introduction of two benign solvents for cleaving protected acid peptide fragments from 2-chlorotriptyl chloride (2-CTC) resin, there is a need to green the cleavage process for obtaining protected peptide amide fragments.

In this work, p-xylene and toluene are introduced as greener alternates to dichloromethane (DCM) for preparing protected peptide amide fragments from a Sieber amide resin. The N-dealkylation is a demanding chemical reaction, requiring that the cleavage protocol be optimised to ensure complete cleavage from the resin.

After a 30 min reaction time, only 66% of the final peptide product was retrieved even with the conventional dichloromethane solvent.

Therefore, 120 min was considered sufficient to fully cleave the peptide from the Sieber amide resin.

This work reaffirms the fact that greening strategies are far from detrimental, with green alternatives often outperforming their replaced counterparts.



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